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U.S. APPLICATION NUMBER NO. FIRST NAMED APPLICANT ATTY. DOCKET NO. 10/566,944 Thorsten Zank 12810-00193-US

INTERNATIONAL APPLICATION NO.

PCT/EP04/07957

I.A. FILING DATE PRIORITY DATE

07/16/2004 08/01/2003

23416 CONNOLLY BOVE LODGE & HUTZ, LLP P O BOX 2207 WILMINGTON, DE 19899

CONFIRMATION NO. 5346 371 FORMALITIES LETTER

OC000000023991140

Date Mailed: 05/22/2007

NOTIFICATION TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant is given TWO MONTHS FROM THE DATE OF THIS NOTICE within which to file the items indicated below to avoid abandonment. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

· A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d).

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:

- For Rules Interpretation, call (571) 272-0951
- For Patentin Software Program Help, call Patent EBC at 1-866-217-9197 or directly at 703-305-3028 / 703-308-6845 between the hours of 6 a.m. and 12 midnight, Monday through Friday, EST.
- Send e-mail correspondence for Patentin Software Program Help @ ebc@uspto.gov

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If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

KAREN R MCLEAN

Telephone: (703) 308-9140 EXT 214

PART 1 - ATTORNEY/APPLICANT COPY

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/566,944	PCT/EP04/07957	12810-00193-US

FORM PCT/DO/EO/922 (371 Formalities Notice)

STIC Biotechnology Systems Branch

RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number:

Source:

Date Processed by STIC:

10/566,944

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE <u>CHECKER</u> <u>VERSION 4.4.0 PROGRAM</u>, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

- 1. EFS-Bio (http://www.uspto.gov/ebc/efs/downloads/documents.htm, EFS Submission User Manual ePAVE)
- 2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
- Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):
 U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Revised 01/10/06

Raw Sequence Listing Error Summary

ERROR DETECTED	SUGGESTED CORRECTION SERIAL NUMBER: 10/566,944
ATTN: NEW RULES CASES:	PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE
I Wrapped Nucleics Wrapped Aminos	The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
2Invalid Line Length	The rules require that a line not exceed 72 characters in length. This includes white spaces.
3Misaligned Amino Numbering	The numbering under each 5 th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
4Non-ASCII	The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
5Variable Length	Sequence(s)contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
6PatentIn 2.0 "bug"	A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
7Skipped Sequences (OLD RULES)	Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence: (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading) (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) This sequence is intentionally skipped
	Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
8Skipped Sequences (NEW RULES)	Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence. <10> sequence id number <400> sequence id number 000
9Use of n's or Xaa's (NEW RULES)	Use of n's and/or Xaa's have been detected in the Sequence Listing. Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
10Invalid <213> Response	Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
11Use of <220>	Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section. (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
12PatentIn 2.0 "bug"	Please do not use "Copy to Disk" function of Patentln version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
13 Misuse of n/Xaa	"n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid

AMC - Biotechnology Systems Branch - 09/09/2003



TPWP

RAW SEQUENCE LISTING DATE: 02/14/2006
PATENT APPLICATION: US/10/566,944 TIME: 12:55:17

Input Set : F:\Sequence listing (12810-00193-US).txt

Output Set: N:\CRF4\02142006\J566944.raw

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Bauer, Jorg
     4
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     6
             Abbadi, Amine
     7
             Heinz, Ernst
     8
             Qiu, Xiao
     9
             Vrinten, Patricia
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             Sperling, Petra
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             Domergue, Frederic
             Meyer, Astrid
    12
    13
             Kirsch, Jelena
    15 <120> TITLE OF INVENTION: METHOD FOR THE PRODUCTION OF MULTIPLE-UNSATURATED FATTY
ACIDS IN
    16
             TRANSGENIC ORGANISMS
    18 <130> FILE REFERENCE: 12810-00193-US
:--> 20 <140> CURRENT APPLICATION NUMBER: US/10/566,944
:--> 20 <141> CURRENT FILING DATE: 2006-02-01
    20 <150> PRIOR APPLICATION NUMBER: DE 103 35 992.3
    21 <151> PRIOR FILING DATE: 2003-08-01
    23 <150> PRIOR APPLICATION NUMBER: DE 103 44 557.9
    24 <151> PRIOR FILING DATE: 2003-09-24
    26 <150> PRIOR APPLICATION NUMBER: DE 103 47 869.8
    27 <151> PRIOR FILING DATE: 2003-10-10
    29 <150> PRIOR APPLICATION NUMBER: DE 103 59 593.7
    30 <151> PRIOR FILING DATE: 2003-12-18
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    33 <151> PRIOR FILING DATE: 2004-02-27
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    36 <151> PRIOR FILING DATE: 2004-03-13
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    39 <151> PRIOR FILING DATE: 2004-05-14
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    58 Met Lys Ser Lys Arq Gln Ala Leu Pro Leu Thr Ile Asp Gly Thr Thr
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RAW SEQUENCE LISTING DATE: 02/14/2006 PATENT APPLICATION: US/10/566,944 TIME: 12:55:17

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63			_			_		-								-		
65 ata gag aat tac caa gag agg gat gcc act gat gcc ttc atg gtt atg 66 Ile Glu Asn Tyr Gln Gly Arg Asp Ala Thr Asp Ala Phe Met Val Met 68		-,-											3					
66 Ile Glu Asn Tyr Gln Gly Arg Asp Ala Thr Asp Ala Phe Met Val Met 68 35 70 cac tct caa gaa gcc tc gac aag ctc aag cgc atg ccc aaa atc aat 71 His Ser Gln Glu Ala Phe Asp Lys Leu Lys Arg Met Pro Lys Ile Asn 70 50 74 ccc agt tct gag ttg cca ccc cag gct gca gtg aat gaa gct caa gag 75 Pro Ser Ser Glu Leu Pro Pro Gln Ala Ala Val Asn Glu Ala Gln Glu 76 65 70 70 70 75 80 78 gat ttc cgg aag ctc cga gaa gag ttg atc gca act ggc gtt gtt gt 75 Pasp Phe Arg Lys Leu Arg Glu Glu Leu Ile Ala Thr Gly Met Phe Asp 80 90 85 82 gcc tcc cct ctg gt ac tca tac aaa atc agc acc aca ctg ggc ctt 83 Ala Ser Pro Leu Trp Tyr Ser Tyr Lys Ile Ser Thr Thr Leu Gly Leu 84 100 105 86 gag gtg ctg gt tat tc ctg atg gtt cag tat cag atg tat ttc att 87 Gly Val Leu Gly Tyr Phe Leu Met Val Gln Tyr Gln Met Tyr Phe Ile 88 115 120 90 ggg gca gtg ttg ctt ggg atg cac tat caa cag atg ggc tgg ctt tct 91 Gly Ala Val Leu Leu Gly Met His Tyr Gln Gln Met Gly Trp Leu Ser 130 135 140 94 cat gac att tgc cac cac cac ag act gg acc aga ctg gc dt tct 93 His Asp Ile Cys His His Gln Thr Phe Lys Asn Arg Asn Trp Asn Asn 96 145 99 Leu Val Gly Leu Val Phe Gly Asn Gly Leu Gln Gly Phe Ser Val Thr 101 165 103 tgc tgg aag gac aca aat gca cac tat cg ga acc act act gg acc act 99 Leu Val Gly Leu Val Phe Gly Asn Gly Leu Gln Gly Phe Ser Val Thr 101 165 103 tgc tgg aag gac acc at gac cac tat gg cac act tcg gca acc act gt gca 108 Gly His Asp Pro Asp Ile Asp Asn Leu Pro Leu Leu Ala Trp Ser Glu 109 195 200 110 gat gac gcc ct gat att gc aac cac cat cat tcg gca acc act tcg gcd act tcg fact 108 Gly His Asp Pro Asp Ile Asp Asn Leu Pro Leu Leu Ala Trp Ser Glu 109 125 126 127 128 129 129 120 125 126 127 128 128 129 129 121 120 125 125 126 127 120 121 124 127 127 128 129 129 121 120 125 125 126 127 128 128 129 129 129 129 120 121 120 121 121 124 125 125		ata	gag	aat		caa	qqa	agg	qat	qcc	act	gat	qcc	ttc	atq	qtt	atq	144
68									_			_	_		_	_	_	
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76 65 70 75 80 78 gat ttc cgg aag ctc cga gaa gag ttg atc gca act ggc atg ttt gat 79 App Phe Arg Lys Leu Arg Glu Glu Leu Ile Ala Thr Gly Met Phe Asp 85 82 gcc tcc ccc ctc tgg tac tca tac aaa atc agc acc aca ctg ggc ctt 83 Ala Ser Pro Leu Trp Tyr Ser Tyr Lys Ile Ser Thr Thr Leu Gly Leu 84 100 105 110 86 gga gtg ctg ggt tat ttc ctg atg gtt cag tat cag atg tat ttc att 87 Gly Val Leu Gly Tyr Phe Leu Met Val Gln Tyr Gln Met Tyr Phe Ile 88 115 120 125 90 ggg gca gtg ttg ctt ggg atg cac tat caa atg atg tat ttc att 88 115 120 125 91 Gly Ala Val Leu Leu Gly Met His Tyr Gln Gln Met Gly Trp Leu Ser 92 130 140 94 cat gac att tgc cac cac cag act ttc aag acc gac tgg ctt tct 95 His Asp Ile Cys His His Gln Thr Phe Lys Asn Arg Asn Trp Asn Asn 96 145 150 155 160 98 ctc gtg gga ctg gta ttt ggc aat ggt ctg cac ac ggt ttt tcc gtg aca 99 Leu Val Gly Leu Val Phe Gly Asn Gly Leu Gln Gly Phe Ser Val Thr 101 165 170 175 103 tgc tgg aag gac aga cac aat gca cat cat tcg gca acc aat gtt caa 104 Cys Trp Lys Asp Arg His Asn Ala His His Ser Ala Thr Asn Val Gln 105 180 180 180 190 107 ggg cac gac ctg tat tt gac aac ctc cat tcg gca acc aat gtt caa 104 Cys Trp Lys Asp Pro Asp Ile Asp Asn Leu Pro Leu Leu Ala Trp Ser Glu 109 195 200 201 201 202 203 204 205 206 207 207 208 209 207 207 208 209 201 201 205 207 207 208 209 207 207 207 208 209 207 207 208 209 207 209 207 207 207 208 209 207 207 208 209 207 209 207 201 207 208 209 207 208 209 207 209 207 207 208 209 207 209 207 209 207 207 208 209 207 209 207 209 207 209 207 209 207 209 207 209 207 209 207 209 207 209 207 209 207 209 207 208 209 209 207 209 207 209 207 209 207 209 209																		
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85 90 95 82 gcc tcc ccc ctc tgg tac tca tac aaa atc agc acc acc ctg ggc ctt 336 83 Ala Ser Pro Leu Trp Tyr Ser Tyr Lys Ile Ser Thr Thr Leu Gly Leu 100 105 110 86 gga gtg ctg ggt tat ttc ctg atg gtt cag tat cag atg tat ttc att 87 Gly Val Leu Gly Tyr Phe Leu Met Val Gln Tyr Gln Met Tyr Phe Ile 88 115 120 125 90 ggg gca gtg ttg ctt ggg atg cac tat caa cag atg gtg ctt tct 91 Gly Ala Val Leu Leu Gly Met His Tyr Gln Met Gly Trp Leu Ser 92 130 135 140 94 cat gac att tgc cac cac cag act ttc aag aac cgg aac tgg aca acc 95 His Asp Ile Cys His His Gln Thr Phe Lys Asn Arg Asn Trp Asn Asn 96 145 150 155 160 98 ctc gtg gga ctg gtat tt ggc aat ggc cat cat cat caa cag atg gac aga cgg 99 Leu Val Gly Leu Val Phe Gly Asn Gly Leu Gln Gly Phe Ser Val Thr 101 165 170 175 103 tgc tgg aag gac aga cac aat gca cac cat cat cat tcg gca acc aat gtt caa 180 180 180 190 107 ggg cac gac ctg at tt gac aac cac cat cat tcg gca acc act gtt cag 180 180 180 180 190 107 ggg cac gac ctg at att gac aac cct cat tcg gca acc at gtt cag 180 190 195 190 200 191 1 gat gac gtc aca cac gg gcg tac ccg att tcc cgc aag ctc att cag tcc 191 1 gat gac gtc aca cac gg gcg tac ccg att tcc cgc aag ctc att cag tcc 192 193 194 11 Tr Arg Ala Ser Pro Ile Ser Arg Lys Leu Ile Gln Phe 113 210 205 115 cag cag tat tat tc ttg gtc atc tgg tac ttg ctg gat ttg cgc ctg cgc atc cgc atc cgc acc atc atc ggc aga cacc atc cgc ctg ttc atc tcg 191 1 gt ttc cag agc gt tta ctc ttg ccc acc acc acc acc acc acc acc acc ac	79	Asp	Phe	Arg	Lys	Leu	Arg	Glu	Glu	Leu	Ile	Ala	Thr	Gly	Met	Phe	Asp	
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87 Gly Val Leu Gly Tyr Phe Leu Met Val Gln Tyr Gln Met Tyr Phe Ile 88	84				100					105					110			
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90 ggg gca gtg ttg ctt ggg atg cac tat caa cag atg ggc tgg ctt tct 91 Gly Ala Val Leu Leu Gly Met His Tyr Gln Gln Met Gly Trp Leu Ser 92 130 135 140 94 cat gac att tgc cac cac cag act ttc aag aac cgg aac tgg aac aac 480 95 His Asp Ile Cys His His Gln Thr Phe Lys Asn Arg Asn Trp Asn Asn 96 145 150 155 160 98 ctc gtg gga ctg gta ttt ggc aat ggt ctg caa ggt ttt cc gtg aca 99 Leu Val Gly Leu Val Phe Gly Asn Gly Leu Gln Gly Phe Ser Val Thr 101 165 170 175 103 tgc tgg aag gac aga cac aat gca cat cat tcg gca acc aat gtt caa 104 Cys Trp Lys Asp Arg His Asn Ala His His Ser Ala Thr Asn Val Gln 105 180 107 ggg cac gac cct gat att gac aac ctc ccc ctc tta gcc tgg tct gag 624 108 Gly His Asp Pro Asp Ile Asp Asn Leu Pro Leu Leu Ala Trp Ser Glu 109 195 200 205 111 gat gac gtc aca cgg gcg tca ccg att tcc cgc aag ctc att cag ttc 112 Asp Asp Val Thr Arg Ala Ser Pro Ile Ser Arg Lys Leu Ile Gln Phe 113 210 215 220 115 220 235 240 115 ttc cag agc gtg ttg acc gtg cgc agt ctg aag gac aga gat aac 768 120 Cys Phe Gln Ser Val Leu Thr Val Arg Ser Leu Lys Asp Arg Asp Asn 221 245 250 255 123 caa ttc tat cgc tct cag tat aag aag gag gcc att ggc ctc gcc 1816 124 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu	87	Gly	Val	Leu	Gly	Tyr	Phe	Leu	Met	Val	Gln	Tyr	Gln	Met	Tyr	Phe	Ile	
91 Gly Ala Val Leu Leu Gly Met His Tyr Gln Gln Met Gly Trp Leu Ser 92 130 135 140 94 cat gac att tgc cac cac cag act ttc aag aac cgg aac tgg aac aac 95 His Asp Ile Cys His His Gln Thr Phe Lys Asn Arg Asn Trp Asn Asn 96 145 150 155 160 98 ctc gtg gga ctg gta ttt ggc aat ggt ctg caa ggt ttt tcc gtg aca 99 Leu Val Gly Leu Val Phe Gly Asn Gly Leu Gln Gly Phe Ser Val Thr 101 165 170 175 103 tgc tgg aag gac aga cac aat gca cat cat tcg gca acc aat gtt caa 104 Cys Trp Lys Asp Arg His Asn Ala His His Ser Ala Thr Asn Val Gln 105 180 185 190 107 ggg cac gac cct gat att gac aac ctc ccc ctc tta gcc tgg tct gag 108 Gly His Asp Pro Asp Ile Asp Asn Leu Pro Leu Leu Ala Trp Ser Glu 109 195 200 205 111 gat gac gtc aca cgg gcg tca ccg att tcc cgc aag ctc att cag ttc 112 Asp Asp Val Thr Arg Ala Ser Pro Ile Ser Arg Lys Leu Ile Gln Phe 113 210 215 220 115 cag cag tat tat ttc ttg gtc atc tgt atc ttg tg cgg ttc att tgg 116 Gln Gln Tyr Tyr Phe Leu Val Ile Cys Ile Leu Leu Arg Phe Ile Trp 117 225 230 235 240 119 tgt ttc cag agc gtg ttg acc gtg cgc agt ctg aag gac aga gat aac 120 Cys Phe Gln Ser Val Leu Thr Val Arg Ser Leu Lys Asp Arg Asp Asp 121 245 250 123 caa ttc tat cgc tct cag tat aag aag gac gcc att ggc ctc gcc ctg 124 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu																		
92 130 135 140 94 cat gac att tgc cac cac cag act ttc aag aac cgg aac tgg aac aac 480 95 His Asp Ile Cys His His Gln Thr Phe Lys Asn Arg Asn Trp Asn Asn 761 96 ctc gtg gga ctg gta ttt ggc aat ggt ctg caa ggt ttt tcc gtg aca 528 99 Leu Val Gly Leu Val Phe Gly Asn Gly Leu Gln Gly Phe Ser Val Thr 101 165 170 175 103 tgc tgg aag gac aga cac aat gca cat cat tcg gca acc aat gtt caa 576 104 Cys Trp Lys Asp Arg His Asn Ala His His Ser Ala Thr Asn Val Gln 105 180 185 190 107 ggg cac gac cct gat att gac aac ctc ccc ctc tta gcc tgg tct gag 624 108 Gly His Asp Pro Asp Ile Asp Asn Leu Pro Leu Leu Ala Trp Ser Glu 109 195 200 205 111 gat gac gtc aca cgg gcg tca ccg att tcc cgc aag ctc att cag ttc 672 112 Asp Asp Val Thr Arg Ala Ser Pro Ile Ser Arg Lys Leu Ile Gln Phe 113 210 215 220 115 cag cag tat tat ttc ttg gtc atc tgt atc ttg ttg cgg ttc att tgg 720 116 Gln Gln Tyr Tyr Phe Leu Val Ile Cys Ile Leu Leu Arg Phe Ile Trp 170 225 230 235 240 119 tgt ttc cag agc gtg ttg acc gtg cgc agt ctg aag gac aga gat aac 768 120 Cys Phe Gln Ser Val Leu Thr Val Arg Ser Leu Lys Asp Arg Asp Asn Asn Asp Asn 121 245 250 255 123 caa ttc tat cgc tct cag tat aag aag gag gcc att ggc ctc gcc ctg 816 124 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu			_		_			_				_	_					432
94 cat gac att tgc cac cac cag act ttc aag aac cgg aac tgg aac aac 95 His Asp Ile Cys His His Gln Thr Phe Lys Asn Arg Asn Trp Asn Asn 96 145		-		Val	Leu	Leu	Gly		His	Tyr	Gln	Gln		Gly	Trp	Leu	Ser	
95 His Asp Ile Cys His His Gln Thr Phe Lys Asn Arg Asn Trp Asn Asn 96 145 150 155 160 98 ctc gtg gga ctg gta ttt ggc aat ggt ctg caa ggt ttt tcc gtg aca 99 Leu Val Gly Leu Val Phe Gly Asn Gly Leu Gln Gly Phe Ser Val Thr 101 165 170 175 103 tgc tgg aag gac aga cac aat gca cat cat tcg gca acc aat gtt caa 104 Cys Trp Lys Asp Arg His Asn Ala His His Ser Ala Thr Asn Val Gln 105 180 185 190 107 ggg cac gac cct gat att gac aac ctc ccc ctc tta gcc tgg tct gag 108 Gly His Asp Pro Asp Ile Asp Asn Leu Pro Leu Leu Ala Trp Ser Glu 109 195 200 205 111 gat gac gtc aca cgg gcg tca ccg att tcc cgc aag ctc att cag ttc 112 Asp Asp Val Thr Arg Ala Ser Pro Ile Ser Arg Lys Leu Ile Gln Phe 113 210 215 220 115 cag cag tat tat ttc ttg gtc atc tgt atc ttg ttg cgg ttc att tgg 116 Gln Gln Tyr Tyr Phe Leu Val Ile Cys Ile Leu Leu Arg Phe Ile Trp 117 225 230 235 240 119 tgt ttc cag agc gtg ttg acc gtg cgc agt ctg aag gac aga gat aac 120 Cys Phe Gln Ser Val Leu Thr Val Arg Ser Leu Lys Asp Arg Asp Asp 121 245 250 255 123 caa ttc tat cgc tct cag tat aag aag gag gcc att ggc ctc gcc ctg 124 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu																		400
96 145																		480
98 ctc gtg gga ctg gta ttt ggc aat ggt ctg caa ggt ttt tcc gtg aca 99 Leu Val Gly Leu Val Phe Gly Asn Gly Leu Gln Gly Phe Ser Val Thr 101 165 170 175 103 tgc tgg aag gac aga cac aat gca cat cat tcg gca acc aat gtt caa 576 104 Cys Trp Lys Asp Arg His Asn Ala His His Ser Ala Thr Asn Val Gln 105 180 185 190 107 ggg cac gac cct gat att gac aac ctc ccc ctc tta gcc tgg tct gag 624 108 Gly His Asp Pro Asp Ile Asp Asn Leu Pro Leu Leu Ala Trp Ser Glu 109 195 200 205 111 gat gac gtc aca cgg gcg tca ccg att tcc cgc aag ctc att cag ttc 672 112 Asp Asp Val Thr Arg Ala Ser Pro Ile Ser Arg Lys Leu Ile Gln Phe 113 210 215 220 115 cag cag tat tat ttc ttg gtc atc tgt atc ttg ttg cgg ttc att tgg 720 116 Gln Gln Tyr Tyr Phe Leu Val Ile Cys Ile Leu Leu Arg Phe Ile Trp 117 225 230 235 240 119 tgt ttc cag agc gtg ttg acc gtg cgc agt ctg aag gac aga gat aac 768 120 Cys Phe Gln Ser Val Leu Thr Val Arg Ser Leu Lys Asp Arg Asp Asn 121 245 250 255 123 caa ttc tat cgc tct cag tat aag aag gag gcc att ggc ctc gcc ctg 124 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu			Asp	TIE	Cys	HIS		GIN	Thr	Pne	гÃг		Arg	ASII	Trp	ASII		
99 Leu Val Gly Leu Val Phe Gly Asn Gly Leu Gln Gly Phe Ser Val Thr 101 165 170 175 103 tgc tgg aag gac aga cac aat gca cat cat tcg gca acc aat gtt caa 576 104 Cys Trp Lys Asp Arg His Asn Ala His His Ser Ala Thr Asn Val Gln 105 180 185 190 107 ggg cac gac cct gat att gac aac ctc ccc ctc tta gcc tgg tct gag 108 Gly His Asp Pro Asp Ile Asp Asn Leu Pro Leu Leu Ala Trp Ser Glu 109 195 200 205 111 gat gac gtc aca cgg gcg tca ccg att tcc cgc aag ctc att cag ttc 112 Asp Asp Val Thr Arg Ala Ser Pro Ile Ser Arg Lys Leu Ile Gln Phe 113 210 215 220 115 cag cag tat tat ttc ttg gtc atc tgt atc ttg ttg cgg ttc att tgg 720 116 Gln Gln Tyr Tyr Phe Leu Val Ile Cys Ile Leu Leu Arg Phe Ile Trp 117 225 230 235 240 119 tgt ttc cag agc gtg ttg acc gtg cgc agt ctg aag gac aga gat aac 768 120 Cys Phe Gln Ser Val Leu Thr Val Arg Ser Leu Lys Asp Arg Asp Asn 121 245 250 255 123 caa ttc tat cgc tct cag tat aag aag gag gcc att ggc ctc gcc ctg 116 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu											~+~				+ ~ ~	a+a		E20
101																		320
103 tgc tgg aag gac aga cac aat gca cat cat tcg gca acc aat gtt caa 576 104 Cys Trp Lys Asp Arg His Asn Ala His His Ser Ala Thr Asn Val Gln 105			val	GIY	neu			Gry	ASII	GLY			Gry	riic	501			
104 Cys Trp Lys Asp Arg His Asn Ala His His Ser Ala Thr Asn Val Gln 105		_	tac	, ,,,	, ,,,,,			. aat	. ac	cat			a aca	9 200	~ 221			576
105																		
107 ggg cac gac cct gat att gac aac ctc ccc ctc tta gcc tgg tct gag 108 Gly His Asp Pro Asp Ile Asp Asn Leu Pro Leu Leu Ala Trp Ser Glu 109			,,	, _,.			,					<i>,</i>						
108 Gly His Asp Pro Asp Ile Asp Asn Leu Pro Leu Leu Ala Trp Ser Glu 109			cad	g gad			att	gac	aac			cto	e tta	a gc		-	gaq	624
109	10	, 33: 8 Glv	, His	s Ast	Pro	Ast	Ile	Asr	Asi	Let	Pro	o Lei	ı Lei	Ala	a Tri	o Sei	Glu	
111 gat gac gtc aca cgg gcg tca ccg att tcc cgc aag ctc att cag ttc 112 Asp Asp Val Thr Arg Ala Ser Pro Ile Ser Arg Lys Leu Ile Gln Phe 113																•		
112 Asp Asp Val Thr Arg Ala Ser Pro Ile Ser Arg Lys Leu Ile Gln Phe 113			gad			cqc	qcq	tca	ccc	att	tc	c cgc	aag	g cto	c at	t cas	ttc	672
113																		
116 Gln Gln Tyr Tyr Phe Leu Val Ile Cys Ile Leu Leu Arg Phe Ile Trp 117 225 230 235 240 119 tgt ttc cag agc gtg ttg acc gtg cgc agt ctg aag gac aga gat aac 768 120 Cys Phe Gln Ser Val Leu Thr Val Arg Ser Leu Lys Asp Arg Asp Asn 121 245 250 255 123 caa ttc tat cgc tct cag tat aag aag gag gcc att ggc ctc gcc ctg 124 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu						_	-					-						
117 225 230 235 240 119 tgt ttc cag agc gtg ttg acc gtg cgc agt ctg aag gac aga gat aac 768 120 Cys Phe Gln Ser Val Leu Thr Val Arg Ser Leu Lys Asp Arg Asp Asn 121 245 250 255 123 caa ttc tat cgc tct cag tat aag aag gag gcc att ggc ctc gcc ctg 124 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu	11	5 cag	cag	g tat	: tat	tto	ttg	gto	ato	: tgt	ato	e ttg	g ttg	g cgg	g tte	c att	tgg	720
119 tgt ttc cag agc gtg ttg acc gtg cgc agt ctg aag gac aga gat aac 120 Cys Phe Gln Ser Val Leu Thr Val Arg Ser Leu Lys Asp Arg Asp Asn 121 245 250 255 123 caa ttc tat cgc tct cag tat aag aag gag gcc att ggc ctc gcc ctg 124 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu	11	6 Glr	ı Gli	Ty:	Tyr	Phe	Lev	ı Val	Ile	Cys	Ile	e Lei	ı Lei	Arg	g Phe	e Ile	Trp	
120 Cys Phe Gln Ser Val Leu Thr Val Arg Ser Leu Lys Asp Arg Asp Asn 121 245 250 255 123 caa ttc tat cgc tct cag tat aag aag gag gcc att ggc ctc gcc ctg 124 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu	11	7 225	5	_	-		230)				235	5				240	
121 245 250 255 123 caa ttc tat cgc tct cag tat aag aag gag gcc att ggc ctc gcc ctg 124 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu	11	9 tgt	: tto	cag	ago	gto	ttg	acc	gtg	g	agt:	cto	aag	ggad	c aga	a gat	aac	768
123 caa ttc tat cgc tct cag tat aag aag gag gcc att ggc ctc gcc ctg 124 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu	12	0 Cys	Phe	e Glr	Ser	: Val	. Lev	Thr	· Val	Arg	y Sei	r Lev	ı Lys	a Ası) Ar	g Ası	Asn	
124 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu	12	1				245	5				250)				255	5	
					-		_		_	_							_	816
125 260 265 270	12	4 Glr	ı Phe	тут	Arg	Ser	Gln	Тут	Lys	Lys	Gli	ı Ala	a Ile	e Gly	y Le	ι Ala	a Leu	
	12	5			260)				265	5				270	ס		

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Output Set: N:\CRF4\02142006\J566944.raw

													atg					864
128	His	Trp	Thr	Leu	Lys	Ala	Leu	Phe	His	Leu	Phe	Phe	Met	Pro	Ser	Ile		
129			275					280					285					
131	ctc	aca	tcg	ctg	ttg	gta	ttt	ttc	gtt	tcg	gag	ctg	gtt	ggc	ggc	ttc		912
132	Leu	Thr	Ser	Leu	Leu	Val	Phe	Phe	Val	Ser	Glu	Leu	Val	Gly	Gly	Phe		
135		290					295					300						
													ctg					960
138	Gly	Ile	Ala	Ile	Val	Val	Phe	Met	Asn	His	Tyr	Pro	Leu	Glu	Lys	Ile		
139	305					310					315					320		
141	999	gac	tcg	gtc	tgg	gat	ggc	cat	gga	ttc	tcg	gtt	ggc	cag	atc	cat	1	800
142	Gly	Asp	Ser	Val	Trp	Asp	Gly	His	Gly		Ser	Val	Gly	Gln		His		
143					325					330					335			
145	gag	acc	atg	aac	att	cgg	cga	ggg	att	atc	aca	gat	tgg	ttt	ttc	gga	1	056
146	Glu	Thr	Met	Asn	Ile	Arg	Arg	Gly		Ile	Thr	Asp	Trp		Phe	Gly		
147				340					345					350				
													acc				1	104
	Gly	Leu		Tyr	Gln	Ile	Glu		His	Leu	Trp	Pro	Thr	Leu	Pro	Arg		
151			355					360			•		365				_	
													ctg				1	152
	His		Leu	Thr	Ala	Val		Tyr	Gln	Val	GIU		Leu	Cys	Gin	rys		
155		370					375		_ •			380					-	200
													999				1	200
		Asn	Leu	Pro	Tyr		Asn	Pro	Leu	Pro		GIU	Gly	Leu	vai			
159						390		<u></u>			395					400	-	240
													gag				1	248
	Leu	Leu	Arg	TYE		AIa	vai	Pne	Ala		mec	Ala	Glu	ьуs	415	PIO		
163					405					410					413		1	266
	_			_	cta	Laa											_	200
168	AIA	Gry	Lys	420	neu													
	-210	1~ CI	O II		. 🤈													
			ENGT															
			PE:															
					Eug!	lena	grad	cilia	3									
			QUE		_		J		-									
						Gln	Ala	Leu	Pro	Leu	Thr	Ile	Asp	Gly	Thr	Thr		
179					5					10			_	_	15			
182	Tyr	Asp	Val	Ser	Ala	Trp	Val	Asn	Phe	His	Pro	Gly	Gly	Ala	Glu	Ile		
183	_	_		20		_	•		25			_	_	30				
186	Ile	Glu	Asn	Tyr	Gln	Gly	Arg	Asp	Ala	Thr	Asp	Ala	Phe	Met	Val	Met		
187			35	_				40					45					
190	His	Ser	Gln	Glu	Ala	Phe	Asp	Lys	Leu	Lys	Arg	Met	Pro	Lys	Ile	Asn		
191		50					55					60						
194	Pro	Ser	Ser	Glu	Leu	Pro	Pro	Gln	Ala	Ala	Val	Asn	Glu	Ala	Gln	Glu		
195	65					70					75					80		
198	Asp	Phe	Arg	Lys	Leu	Arg	Glu	Glu	Leu		Ala	Thr	Gly	Met		Asp		
199					85					90		_			95			
	Ala	Ser	Pro		Trp	Tyr	Ser	Tyr		Ile	Ser	Thr	Thr		Gly	Leu		
203				100					105					110				
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Output Set: N:\CRF4\02142006\J566944.raw

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           115
                               120
210 Gly Ala Val Leu Leu Gly Met His Tyr Gln Gln Met Gly Trp Leu Ser
      130
                          135
214 His Asp Ile Cys His His Gln Thr Phe Lys Asn Arg Asn Trp Asn Asn
215 145
                       150
                                           155
218 Leu Val Gly Leu Val Phe Gly Asn Gly Leu Gln Gly Phe Ser Val Thr
219
                   165
                                       170
222 Cys Trp Lys Asp Arg His Asn Ala His His Ser Ala Thr Asn Val Gln
223
              180
                                   185
226 Gly His Asp Pro Asp Ile Asp Asn Leu Pro Leu Leu Ala Trp Ser Glu
227
                               200
230 Asp Asp Val Thr Arg Ala Ser Pro Ile Ser Arg Lys Leu Ile Gln Phe
231 210
                          215
                                               220
234 Gln Gln Tyr Tyr Phe Leu Val Ile Cys Ile Leu Leu Arg Phe Ile Trp
                       230
                                           235
235 225
238 Cys Phe Gln Ser Val Leu Thr Val Arg Ser Leu Lys Asp Arg Asp Asn
                                       250
239
                  245
242 Gln Phe Tyr Arg Ser Gln Tyr Lys Lys Glu Ala Ile Gly Leu Ala Leu
              260
                                  265
                                                      270
246 His Trp Thr Leu Lys Ala Leu Phe His Leu Phe Phe Met Pro Ser Ile
247
    275
                               280
250 Leu Thr Ser Leu Leu Val Phe Phe Val Ser Glu Leu Val Gly Phe
                          295
251
    290
                                               300
254 Gly Ile Ala Ile Val Val Phe Met Asn His Tyr Pro Leu Glu Lys Ile
                                           315
                       310
258 Gly Asp Ser Val Trp Asp Gly His Gly Phe Ser Val Gly Gln Ile His
                   325
259
                                       330
                                                           335
262 Glu Thr Met Asn Ile Arg Arg Gly Ile Ile Thr Asp Trp Phe Phe Gly
263
               340
                                   345
                                                       350
266 Gly Leu Asn Tyr Gln Ile Glu His His Leu Trp Pro Thr Leu Pro Arg
                              . 360
          355
                                                   365
270 His Asn Leu Thr Ala Val Ser Tyr Gln Val Glu Gln Leu Cys Gln Lys
271 370
                           375
                                               380
274 His Asn Leu Pro Tyr Arg Asn Pro Leu Pro His Glu Gly Leu Val Ile
275 385
                       390
                                           395
278 Leu Leu Arg Tyr Leu Ala Val Phe Ala Arg Met Ala Glu Lys Gln Pro
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282 Ala Gly Lys Ala Leu
283
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286 <210> SEQ ID NO: 3
287 <211> LENGTH: 777
288 <212> TYPE: DNA
289 <213> ORGANISM: Isochrysis galbana
291 <220> FEATURE:
292 <221> NAME/KEY: CDS
293 <222> LOCATION: (1)..(777)
294 <223> OTHER INFORMATION: delta9-elongase
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296 <400> SEQUENCE: 3

RAW SEQUENCE LISTING DATE: 02/14/2006
PATENT APPLICATION: US/10/566,944 TIME: 12:55:17

Input Set : F:\Sequence listing (12810-00193-US).txt
Output Set: N:\CRF4\02142006\J566944.raw

297	atg	gcc	ctc	gca	aac	gac	gcg	gga	gag	cgc	atc	tgg	gcg	gct	gtg	acc	48
298	Met	Āla	Leu	Ala	Asn	Asp	Ala	Gly	Glu	Arg	Ile	Trp	Ala	Ala	Val	Thr	
299					5					10					15		
301	gac	ccg	gaa	atc	ctc	att	ggc	acc	ttc	tcg	tac	ttg	cta	ctc	aaa	ccg	96
302	Asp	Pro	Glu	Ile	Leu	Ile	Gly	Thr	Phe	Ser	Tyr	Leu	Leu	Leu	Lys	Pro	
303				20					25					30			
305	ctg	ctc	cgc	aat	tcc	999	ctg	gtg	gat	gag	aag	aag	ggc	gca	tac	agg	144
306	Leu	Leu	Arg	Asn	Ser	Gly	Leu	Val	Asp	Glu	Lys	Lys	Gly	Ala	Tyr	Arg	
307			35					40					45				
309	acg	tcc	atg	atc	tgg	tac	aac	gtt	ctg	ctg	gcg.	ctc	ttc	tct	gcg	ctg	192
310	Thr	Ser	Met	Ile	Trp	Tyr	Asn	Val	Leu	Leu	Ala		Phe	Ser	Ala	Leu	
311		50					55					60					
313	agc	ttc	tac	gtg	acg	gcg	acc	gcc	ctc	ggc	tgg	gac	tat	ggt	acg	ggc	240
314	Ser	Phe	Tyr	Val	Thr		Thr	Ala	Leu	Gly		qaA	Tyr	Gly	Thr		
315						70					75					80	
317	gcg	tgg	ctg	cgc	agg	caa	acc	ggc	gac	aca	ccg	cag	ccg	ctc	ttc	cag	288
	Ala	Trp	Leu	Arg		GIn	Thr	GTĀ	Asp		Pro	GIN	Pro	ren		GIN	
319	_				85			· .		90					95		336
321	tgc	ccg	tcc	ccg	gtt	tgg	gac	tcg	aag	CCC	Dho	aca mb=	rgg	acc	gee	Tue	336
	Сув	Pro	ser		vaı	Trp	Asp	ser	பழ்த் 105	rea	Pne	IIII	пр	110	Ата	пуз	
323	gca			100				~+~		+20	ata	~~~	200		taa	cta	384
325	Ala	DDO	Tat	Tree	Cor	Tue	Turn	yey val	Glu	There	Leu	Acn	Thr	Mla	Trn	T.eu	304
326 327	Ald	Pile	115	TAT	SET	цуь	ıyı	120	GIU	TYT	Deu	ASP	125	AIU.		200	
	300	ata		+++	ata	Cad	acc		cac	cac	+++	aac		cca	t.aa	gat	432
323	Arg	Val	Ser	Pho	T.en	Gln	Δla	Phe	His	His	Phe	Glv	Ala	Pro	Tro	Asp	
331	A. y	130	JCI	2 2.00		· · · · ·	135					140					
	gtg		ctc	aac	att	caa		cac	aac	gag	qqc	qta	tqq	atc	ttc	atq	480
334	Val	Tvr	Leu	Glv	Ile	Arg	Leu	His	Asn	Glu	Gly	Val	Trp	Ile	Phe	Met	
	145	-3-			,	150					155		-			160	
	ttt	ttc	aac	tcq	ttc	att	cac	acc	atc	atg	tac	acc	tac	tac	ggc	ctc	528
338	Phe	Phe	Asn	Ser	Phe	Ile	His	Thr	Ile	Met	Tyr	Thr	Tyr	Tyr	Gly	Leu	
339					165					170					175		
341	acc	gcc	gcc	999	tat	aag	ttc	aag	gcc	aag	ccg	ctc	atc	acc	gcg	atg	576
342	Thr	Ala	Ala	Gly	Tyr	Lys	Phe	Lys	Ala	Lys	Pro	Leu	Ile	Thr	Ala	Met	
343				180					185					190			
345	cag	atc	tgc	cag	ttc	gtg	ggc	ggc	ttc	ctg	ttg	gtc	tgg	gac	tac	atc	624
346	Gln	Ile	Cys	Gln	Phe	Val	Gly.		Phe	Leu	Leu	Val		Asp	Tyr	Ile	
347			195					200					205				
	aac																672
	Asn		Pro	Cys	Phe	Asn		Asp	Lys	Gly	Lys		Phe	Ser	Trp	Ala	
351		210				_	215					220		.			
353	ttc	aac	tat	gca	tac	gtc	ggc	tcg	gtc	בלכ	ttg	CEC	EEC	tge	cac	ttt.	720
	Phe	Asn	Tyr	ATA	TYT		GIY	Ser	vai	Pne		Leu	Phe	Cys	птя	240	-
	225	.				230	~~~	200			235	~~~			~~		768
	ttc Phe																, , , ,
	rne	rAr	GIII	ASP	245	Leu	WIG	THE	гåз	250	Ser	wid	nys	νīά	255	my 3	
359	~~~	ata	+ -~		243					250					233		777
20T	cag	CCC	Lag														, , ,

FYI

The type of errors shown exist throughout the Sequence Listing. Please check subsequent sequences for similar errors.

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 02/14/2006
PATENT APPLICATION: US/10/566,944 TIME: 12:55:18

Input Set : F:\Sequence listing (12810-00193-US).txt

Output Set: N:\CRF4\02142006\J566944.raw

Please Note:

Jse of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:115; Xaa Pos. 2,3,4,6,7,10,13
Seq#:116; Xaa Pos. 3,4,5,6
Seq#:139; Xaa Pos. 3,4
Seq#:140; Xaa Pos. 2,3,5,6
Seq#:141; Xaa Pos. 3
Seq#:142; Xaa Pos. 5,6
Seq#:185; N Pos. 3,18
Seq#:186; N Pos. 3,9,12,15,21

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:115; Line(s) 12392 Seq#:116; Line(s) 12415 Seq#:140; Line(s) 13593 Seq#:142; Line(s) 13635 VERIFICATION SUMMARYDATE: 02/14/2006PATENT APPLICATION: US/10/566,944TIME: 12:55:18

Input Set : F:\Sequence listing (12810-00193-US).txt

Output Set: N:\CRF4\02142006\J566944.raw

L:20 M:270 C: Current Application Number differs, Replaced Current Application No L:20 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:12403 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:115 after pos.:0 L:12426 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:116 after pos.:0 L:13581 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:139 after pos.:0 L:13602 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:140 after pos.:0 L:13623 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:141 after pos.:0 L:13646 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:141 after pos.:0 L:14407 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:185 after pos.:0 L:14426 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:185 after pos.:0